



*growing*

# IRIS

*in the home garden*

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Garden irises are hardy, long-lived perennials that need a minimum of care. They are an established "backbone" of home gardens because they bloom when few other plants do—after spring-flowering bulbs and before peonies, delphinium, and phlox.

Easy-to-grow iris varieties adapted to every region of the United States are available. They produce graceful flowers in a wide range of shapes, sizes, and colors.

## DESCRIPTION

Iris flowers have 6 petals. The 3 upright petals are called standards; the 3 that hang down are called falls. Flowers may be white, yellow, pink, purple, blue, reddish, or bicolored.

Principal types of irises are bearded, beardless, crested, and bulb.<sup>1</sup>

Bearded irises have a fuzzy line, or beard, that runs down the middle of the falls. They are called German iris or pogoniris. *Iris germanica* is the most commonly grown bearded species.

Bearded irises live through severe droughts and cold. The sword-shaped leaves are evergreen in warm climates and remain green until late fall in cold climates.

Most bearded iris plants grow 2 to 3 feet tall. Because they are easy to grow, tall bearded irises are recommended for beginning gardeners.

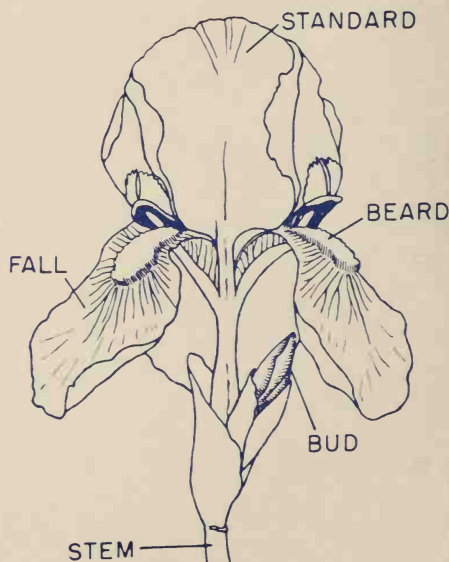
<sup>1</sup> For information on bulb irises, see Home and Garden Bulletin 136, "Spring Flowering Bulbs." You may obtain a copy from Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250; send your request on a post card and include your zip code.

Usually, tall bearded irises bloom in May and June. Several varieties bloom in both spring and fall.

A group of bearded irises that naturally grow 4 to 9 inches tall is called dwarf iris. The two most common species are *I. pumila* and *I. chamaeiris*. Both are well adapted to rock gardens because they spread quickly and form dense mats of foliage. They bloom in March, April, and May.

Beardless irises are called apogoniris or apogons. They have smooth fall petals and thin, grasslike leaves. Plants grow 1 to 4 feet tall. Most varieties bloom in June.

Japanese (*I. kaempferi*) and Siberian (*I. sibirica*) irises are the most commonly grown beardless species.



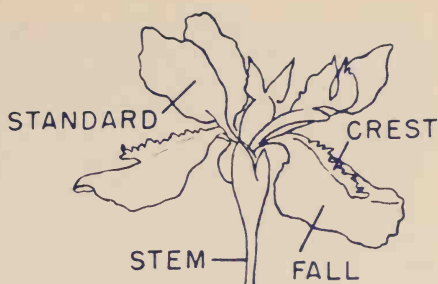
Bearded iris.

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Japanese irises have soft, drooping standards and wide falls. Plants grow 2 to 4 feet tall. Flowers are borne on long stems.

Siberian irises have stiff, narrow falls and narrow, upright standards. Stems grow 18 inches to 2 feet tall. Beardless types, which thrive in moist soil, frequently are planted on stream and lake banks.

Crested irises have a small raised area, or crest, on the middle of each fall. Often, the color of these crests



Crested iris.

BN-7964

contrasts with petal colors. One of the more popular crested irises is a dwarf species, *I. cristata*.

## HOW IRISES GROW

Bearded, beardless, and crested irises grow from thick, underground stems—called rhizomes—that store food produced by the leaves.

Rhizomes grow slightly below the surface of the ground or at ground level. Many small roots penetrate the soil deeply.

Every year, underground offshoots develop from the original rhizome. Offshoots may be divided and transplanted to grow new irises.

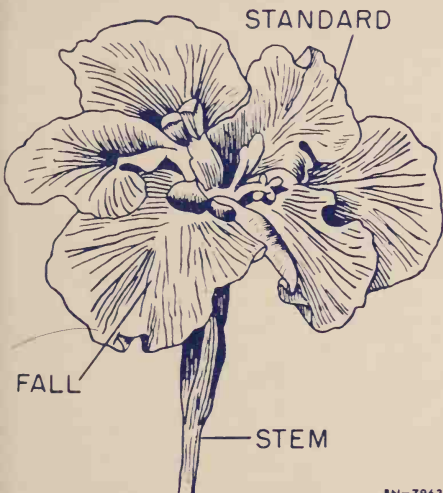
A rhizome that will produce a plant has at least one bud or growing point. Each bud produces a large fan of leaves and a flower stalk. Irises grown from rhizomes should bloom the next spring after planting.

Irises also may be grown from seed. A seedpod may develop below a pollinated flower that is left on the stalk after blossoming. Most seedlings do not bloom for 2 or 3 years after planting.

The slow process of growing plants from seed is used chiefly by breeders to develop new varieties. Because irises are hybrids, flowers of seedlings rarely look like flowers of parent plants.

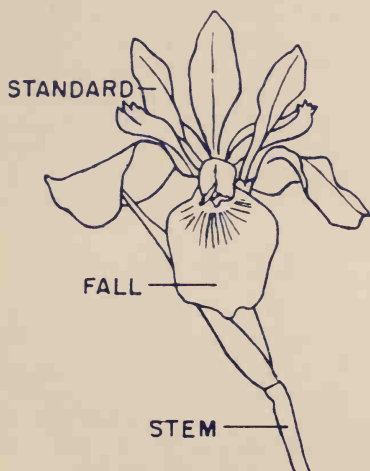
## VARIETIES

From the several thousand varieties of irises available, select varieties that will provide the colors you want in your garden.



Japanese iris (beardless).

BN-7963



Siberian iris (beardless).

BN-7961

Many new varieties are introduced each year. Growers' and breeders' catalogs and garden magazines describe and picture many popular irises.

## PLANTING IRISES

Irises may be planted in triangles, clumps, or borders or in beds with other garden flowers.

### When To Plant

The best time to plant irises is in late summer or early autumn. They should be established in the soil before winter.

Most garden-supply stores sell rhizomes only during the planting season. If you order irises by mail, usually you will receive rhizomes at the planting time recommended for your locality.

Plant rhizomes as soon as practical after you receive them.

### Where To Plant

Irises need full sunshine. Select a site with southern exposure and good air circulation.

Bearded and crested irises need lime soil with good drainage; rhizomes may rot in soil that holds water around them. Beardless types need moist soil that is slightly acid.

### Preparing the Soil

Prepare the bed 1 to 2 weeks before planting irises, to allow the soil time to settle. Dig and loosen the soil at least 18 inches deep. Thoroughly break up all lumps.

Use commercial fertilizer to enrich poor soil in the iris bed; use organic matter to improve soil structure and productivity.

For poor soil, add  $\frac{1}{2}$  pound of a 5-10-5 fertilizer for each 5- by 10-foot area, or  $\frac{1}{2}$  cup for every 6 or 7 rhizomes. Thoroughly mix fertilizer into the soil so that lumps of it do not touch iris roots.

Spading organic matter—compost, well-rotted manure, or peat-moss—into relatively heavy soil may improve drainage.

## How To Plant

In a well-prepared bed, dig a shallow hole large enough to receive the rhizome or clump of rhizomes you are planting. Form a cone of earth in the center of the hole for the planting base. The height of the cone—or planting depth—is determined by the type of garden soil.

In medium soil, make the cone high enough so that the planted rhizome is just below ground level.

In light or well-drained soil, build a low cone. The top of the planted rhizome should be 2 inches below ground level.

In heavy soil, build a cone even with the ground surface. The top of the planted rhizome should be slightly above ground.

Place the rhizome on the cone, parallel with the ground surface. Carefully spread the roots around the cone. Do not wad roots together.

Fill the hole with soil and press it firmly in place around the rhizome. Water immediately; thoroughly soak soil around roots.

To obtain a good display of iris color, use at least 3 rhizomes of the same variety in a triangle or a pattern that alternates plants in rows. Plant rhizomes about 18 inches apart. Point each fan of leaves away from other plants in the group.

If you want to produce masses of flowers quickly, plant undivided rhizome clumps or set 3 individual rhizomes 8 to 10 inches apart.

Before replanting a full-grown iris, cut leaves to one-third their full height.

## CARE OF PLANTS

Water plants often enough before blooming time to keep soil moist but not wet. Remove weeds and grass around the rhizomes.

Before plants bloom, loosen the surface soil with a hoe or hand cultivator. Be careful not to injure the rhizomes or the roots.

Cut flowers as soon as they fade, unless you want to obtain seeds.



Plants that are growing well with good green foliage usually do not need fertilizer. If you use fertilizer, apply it immediately after plants bloom. Work it into the soil around plant bases. Use about  $\frac{1}{2}$  cup of 5-10-5 fertilizer for 6 small plants or about 1 cup for a large iris clump.

In early fall, cut leaves 6 to 8 inches from the ground.

All irises need mulch the first season after planting. Apply a light mulch of straw or evergreen boughs after the ground first freezes. Mulch prevents roots from freezing and stops the alternate freezing and thawing of the soil that harms plants by pushing them out of the soil. Irises in northern States may need mulch every year, even after they are established.

## PROPAGATING IRISES

When plants become crowded, divide the offshoots from the rhizomes. Irises should be divided 2 to 5 years after planting.

Divide and transplant irises in the late summer or early fall, after plants have bloomed. Cut leaves to one-third their full height. Dig under a clump of rhizomes and lift out the whole clump at once. Wash away soil with a steady stream of water.

Make small divisions if you do not want to redivide iris for at least 3—or perhaps 5—years.

Make large divisions if you want many flowers the year after planting. Large divisions should be separated in 2 or 3 years.

Cut rhizomes apart with a sharp knife. Each division must have at least one growing point (or fan of leaves), a few inches of healthy rhizome, and a number of well-developed roots. When separated from the original iris clump, each division is ready to plant.

## IRIS DISEASES

Iris diseases reduce the number of flowers, disfigure the leaves, and sometimes kill the plant.

Prevent diseases by giving plants plenty of space, sunlight, and good drainage. Clean up dead material quickly. Do not plant irises in crowded or completely shaded areas.

### Bacterial Soft Rot

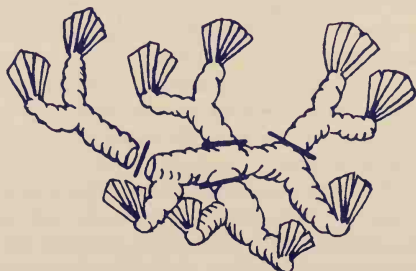
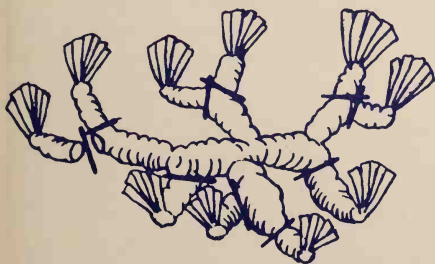
Bacterial soft rot is the most destructive iris disease. Bacteria enter the plant through breaks in the rhizome. Leaf bases and rhizomes begin rotting, and the plant soon dies.

**CONTROL.**—Dig up the diseased rhizomes. If rot is extensive, destroy iris. Cut out and discard diseased parts on less seriously affected plants.

### Fungus Rots

Sclerotic rot, or southern blight, attacks irises in warm, humid areas. A fungus affects plants at or near the soil surface. The leaves turn yellow and dry prematurely or rot off at the base. Small, yellowish-brown, seedlike structures appear.

Another fungus disease, Botrytis rhizome rot, occurs in cool areas.



Left, small rhizome divisions; right, large rhizome divisions.

BN-7960

The fungus produces small, black, seedlike structures on the rhizomes and in the soil. A dry, pithy, gray rot develops in the leaf bases and rhizomes.

**CONTROL.**—Dig and burn plants that are seriously infected with either kind of fungus rot. Remove soil from the surrounding area; replace it with new or sterilized soil. Cut out the rotted areas of slightly damaged rhizomes.

## Iris Leaf Spot

Iris leaf spot disfigures leaves and weakens plants. About flowering time, infected leaves are dotted with small, brown spots. Water-soaked margins around the spots turn yellow. Spots later develop a grayish center with black fruiting tufts. The leafspot fungus overwinters in old leaves and produces new spores in the spring.

**CONTROL.**—If iris leaf spot has been a problem in your area, spray or dust the plants every 2 weeks from the time leaves emerge until they stop growing. Use a copper fungicide spray or zineb dust.

In mild climates, cut and burn leaves of infected plants in the fall. If leaves are not removed, the fungus may remain active throughout the winter.

In cold areas, remove dead foliage before shoots appear in spring.

## Rust and Bacterial Leaf Spot

Rust and bacterial leaf spot weaken, but seldom kill, iris plants.

Rust produces small, raised, dark red dots on iris leaves.

Bacterial leaf spot causes dark green, watery spots and streaks. The spots later turn yellow and become translucent.

**CONTROL.**—Remove and burn all leaves that show signs of rust or bacterial leaf spot. Do not let any diseased leaves remain around plants. Infected leaves harbor spores that spread rust and leaf spot.

## Nematode Infection

Root-knot nematodes and lesion nematodes are microscopic worms that attack irises and a wide range of other plants.

Root-knot nematodes cause distinct knots or galls on the roots. These knobby swellings on a root look like beads on a string.

When lesion nematodes attack iris, the roots discolor and decay. In advanced stages of infestation, many roots rot off. Small, lateral roots that replace the rotted ones give the root system a matted or turfed appearance. Younger, newer roots are dotted with small reddish-brown spots.

**CONTROL.**—Remove and burn plants with knotted roots or unthrifty plants with extensive root decay. Do not replant irises in the same place until nematodes have been eliminated.

Treat infested soil with a nematicide or soil fumigant such as methyl bromide, metham, or DD. Use according to manufacturer's directions.

## Mosaic

Iris mosaic, the most widespread disease of irises, is caused by a virus transmitted by aphids.

Diseased flowers may be mottled or striped. Light green streaks appear on the leaves of some plants.

Many infected plants do not show signs of disease. Individual plants may have typical symptoms at one season of the year and appear disease free at another season.

**CONTROL.**—Dig up and burn irises that show severe mosaic damage.

Reduce the spread of iris mosaic by controlling aphids.

## IRIS INSECTS

### Iris Borer

The iris borer causes more damage to iris than all other insects.

The pink, caterpillarlike larvae have rows of black spots along their sides. They are about 1½ inches

long when full grown. Iris borer adults are large brown moths with black markings.

First symptoms of borers are tear stains and chewed leaf edges that appear on leaves in early spring. Irises later develop loose, rotted bases and holes in rhizomes.

Borer larvae hatch in early spring from overwintering eggs. These caterpillars pierce leaves and tunnel into the stem. Then they bore into the rhizome, where they remain to feed and grow. At maturity, larvae leave the rhizome and pupate in the soil.

Bacterial rhizome rot readily attacks borer-infested plants.

**CONTROL.**—To eliminate overwintering eggs, clean up and destroy old leaves, stems, and debris in fall or winter. To kill young, hatching larvae, apply 2-percent lindane dust or a lindane spray to the iris beds at weekly intervals from time first growth starts until June 1. To kill older larvae in fans and rhizomes, spray with dimethoate. With aid of pointed stick or pencil, locate and destroy borers in young leaf sheaths that escape dust treatment. Transplant infested iris after it flowers; destroy larvae and infested rhizomes and chestnut brown pupae in soil before replanting. Community effort is important in iris borer control.



TC-6438

Iris borer larva tunneling in rhizome.

To make the sprays, mix 1 tablespoon of 20-percent lindane emulsifiable concentrate or 2 teaspoons of 23.4-percent dimethoate emulsifiable concentrate with 1 gallon of water.

## Aphids

Aphids, or plant lice, are small, green, pink, or mealy-white insects that attack many plants.

Aphids may appear on iris plants in early spring. They pierce leaves and suck the juices. When they feed, they may transmit the virus that causes iris mosaic.

**CONTROL.**—To kill aphids, spray plants with malathion. Repeat if aphids reappear. To make the spray, add 2 teaspoonfuls of 57-percent malathion emulsifiable concentrate to 1 gallon of water.

## Verbena Bud Moth

Larvae of the verbena bud moth tunnel into new iris shoots and buds. Larvae are about one-half inch long. They have greenish-yellow, worm-like bodies and black heads. Mature moths do not attack irises.

**CONTROL.**—Cut and burn infested shoots and buds.

## Iris Thrips

Larvae and adults of the iris thrips pierce the surfaces of young leaves and leaf sheaths. They suck juices that ooze from the wounds. Dry wounds become small, straw-colored spots. Flower buds blacken; plant tops weaken. Iris thrips are especially injurious to Japanese iris.

Larvae of iris thrips are milky white. The black-bodied adults usually are wingless; they are about one twenty-fifth of an inch long when mature.

**CONTROL.**—Spray plants with dimethoate 4 times at weekly intervals during May and June. Do not spray during flowering.

## PRECAUTIONS

Pesticides used improperly can be injurious to man, animals, and plants. Follow the directions and heed all precautions on the labels.

Store pesticides in original containers—out of reach of children and pets—and away from foodstuff.

Apply pesticides selectively and carefully. Do not apply a pesticide when there is danger of drift to other areas. Avoid prolonged inhalation of a pesticide spray or dust. When applying a pesticide it is advisable that you be fully clothed.

After handling a pesticide, do not eat, drink, or smoke until you have washed. In case a pesticide is swallowed or gets in the eyes, follow the first aid treatment given on the label, and get prompt medical attention. If a pesticide is spilled on your skin or clothing, remove clothing immediately and wash skin thoroughly.

Dispose of empty pesticide containers by wrapping them in several

layers of newspaper and placing them in your trash can.

It is difficult to remove all traces of a herbicide (weed killer) from equipment. Therefore, to prevent injury to desirable plants do not use the same equipment for insecticides and fungicides that you use for a herbicide.

NOTE: Registrations of pesticides are under constant review by the U. S. Department of Agriculture. Use only pesticides that bear the USDA registration number and carry directions for home and garden use.

For information regarding the identification and control of other insect pests on irises, see Agriculture Information Bulletin 237, "Controlling Insects on Flowers," available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at 40 cents per copy.

This edition replaces all previous editions of this publication. Because of changed insecticide recommendations, earlier copies should be destroyed.

*Prepared by*

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AND  
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AGRICULTURAL RESEARCH SERVICE



*Use Pesticides Safely*  
FOLLOW THE LABEL  
U.S. DEPARTMENT OF AGRICULTURE

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